

steady state motion may be inferred after a period of acceleration without deceleration. The motion signal processing circuit 62 and/or the control circuit 42 may look at the start of motion (e.g., acceleration) and calculate an estimated velocity as the integral of acceleration/deceleration. Periods of no acceleration/deceleration may be interpreted as constant motion at the estimated velocity.

[0077] Based on the computed movement vectors, it is determined at block 130 whether a pan request or a zoom request (or both) have been made by the user. If the request is a pan request, then the method moves to block 132 and the mobile phone display reference point 94 is changed so as to affect a shift of the virtual page image 80. For example, if the mobile phone reference point 94 is the same as the origin of the virtual page image (e.g., they are both 0, 0), and a user subsequently makes a pan right request, the control circuit 42 can alter the mobile phone reference point 94 to be offset from the virtual page origin (e.g., the x-component of the display reference point 94 can be incremented, such as to 1, 0). Then at block 134, the virtual page image data is retrieved from memory 46 using the new reference point 94, and at block 136 the image is refreshed on the display 22. The new reference point 94 causes the image to shift right, thereby providing a pan right function. As will be appreciated, pan left is similar to pan right, except the x coordinate is decremented instead of incremented. Panning up or down operates on the y-coordinate, instead of the x-coordinate. Upon the new image being refreshed on the display, the method moves back to block 122.

[0078] Moving back to block 130, if a zoom request has been made, the method moves to block 138 and the magnification rate is increased (zoom in) or decreased (zoom out) corresponding to the requested action. The zoom values modify the magnification factor that the control circuit 42 applies to the data when displaying the virtual image page. At block 140 the virtual page image data is modified using the new zoom factor, and at block 142 the image is refreshed on the display 22.

[0079] Specific embodiments of the invention have been disclosed herein. One of ordinary skill in the art will readily recognize that the invention may have other applications in other environments. In fact, many embodiments and implementations are possible. The following claims are in no way intended to limit the scope of the present invention to the specific embodiments described above. In addition, any recitation of "means for" is intended to evoke a means-plus-function reading of an element and a claim, whereas, any elements that do not specifically use the recitation "means for", are not intended to be read as means-plus-function elements, even if the claim otherwise includes the word "means".

[0080] Computer program elements of the invention may be embodied in hardware and/or in software (including firmware, resident software, micro-code, etc.). The invention may take the form of a computer program product, which can be embodied by a computer-usable or computer-readable storage medium having computer-usable or computer-readable program instructions, "code" or a "computer program" embodied in the medium for use by or in connection with the instruction execution system. In the context of this document, a computer-usable or computer-readable medium may be any medium that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, appar-

ratus, or device. The computer-usable or computer-readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium such as the Internet. Note that the computer-usable or computer-readable medium could even be paper or another suitable medium upon which the program is printed, as the program can be electronically captured, via, for instance, optical scanning of the paper or other medium, then compiled, interpreted, or otherwise processed in a suitable manner. The computer program product and any software and hardware described herein form the various means for carrying out the functions of the invention in the example embodiments.

[0081] Although the invention has been shown and described with respect to a certain preferred embodiment or embodiments, it is obvious that equivalent alterations and modifications will occur to others skilled in the art upon the reading and understanding of this specification and the annexed drawings. In particular regard to the various functions performed by the above described elements (components, assemblies, devices, compositions, etc.), the terms (including a reference to a "means") used to describe such elements are intended to correspond, unless otherwise indicated, to any element which performs the specified function of the described element (i.e., that is functionally equivalent), even though not structurally equivalent to the disclosed structure which performs the function in the herein illustrated exemplary embodiment or embodiments of the invention. In addition, while a particular feature of the invention may have been described above with respect to only one or more of several illustrated embodiments, such feature may be combined with one or more other features of the other embodiments, as may be desired and advantageous for any given or particular application.

What is claimed is:

1. An electronic equipment, comprising:
 - a display for viewing a virtual page;
 - a transducer operable to detect motion of the electronic equipment; and
 - a control circuit for providing information to the display, wherein the control circuit is responsive to detected motion to perform at least one of a pan or zoom of information provided to the display, wherein the pan and/or zoom correspond to a direction and velocity of the detected motion.
2. The electronic equipment of claim 1, wherein the transducer is operable to generate a motion signal that corresponds to acceleration and/or deceleration of the electronic equipment, and the control circuit is operable to determine a velocity of the electronic equipment from the motion signal.
3. The electronic equipment of claim 1, said transducer comprising a signal conditioning circuit to filter out signals representing motion not representative of intended motion of the electronic equipment.
4. The electronic equipment of claim 3, said signal conditioning circuit comprising a low pass filter.
5. The electronic equipment of claim 1, further comprising a motion signal processing circuit operative to provide a motion signal indicative of duration of the motion, amplitude of the motion, and/or frequency of the motion.